

REMARKS

The present Amendment is in response to the Office Action mailed April 3, 2007. Claims 1-2, 5-17, 20-32, 33, and 36-37 are amended. Claims 3-4, 18-19, and 34-35 were previously cancelled. Claims 1-2, 5-17, 20-33, and 36-47 remain pending in view of the above amendments.

Please note that the following remarks are not intended to be an exhaustive enumeration of the distinctions between any cited references and the claimed invention. Rather, the distinctions identified and discussed below are presented solely by way of example to illustrate some of the differences between the claimed invention and the cited references. Reconsideration of the application is respectfully requested in view of the above amendments to the claims and the following remarks. For the Examiner's convenience and reference, Applicant's remarks are presented in the order in which the corresponding issues were raised in the Office Action.

Claim Objections

The Examiner objected to claim 1 as reciting the same limitation twice. Claim 1 has been amended as required by the Examiner. The claims 2, 5-16, 20-32, and 36-47 have also been amended as required by the Examiner.

Rejection Under 35 U.S.C. §102(e)

The Office Action rejected claims 1, 2, 5-17, 20-33, and 36-47 under 35 U.S.C. § 102(e)¹ as being anticipated by U.S. Patent Publication No. 2002/0156817 A1 (*Lemus*). Because *Lemus* does not teach or suggest each and every element of the rejected claims, *Lemus* does not anticipate the rejected claims and Applicants respectfully traverse this rejection in view of the following remarks.

Embodiments of the invention relate to the integration of mixed format data. The Office Action suggests that *Lemus* teaches that a mixed format data are structured data from unstructured or semi-structured data. See Office Action at pg. 3. However, this fails to teach or suggest the requirements of claim 1. More specifically, mixed format

¹ Because *Lemus* is only citable under 35 U.S.C. § 102(e) Applicants do not admit that *Lemus* is in fact prior art to the claimed invention but reserve the right to swear behind *Lemus* if necessary to remove it as a reference.

data is not structured data from unstructured data as suggested by the Office Action and taught by *Lemus*. Rather, claim 1 clearly requires that the database include both structured data and unstructured data. Thus, both structured data and unstructured data are provided as input. This distinction illustrates one of the differences that prevents *Lemus* from anticipating the pending claims.

Claim 1 begins by requiring the method to access a database of data records, where some of the data records contain both structured data and unstructured data. Thus, mixed format data, as recited in claim 1, includes both structured data and unstructured data. The structured data as required by claim 1 is distinct from the unstructured data. In fact, the structured data can be obtained independently from the unstructured data and has meaning independent of the unstructured data.

In the database, the structured data is not extracted from the unstructured data. The structured data exists independently from the unstructured data. In contrast, *Lemus* examines unstructured data such as text with the purpose of populating fields in a record. The example illustrated in ¶¶[0078]-[0108] illustrate an example where text from an email is processed to populate fields in a record. Thus, the structured data taught by *Lemus* is generated from the unstructured data while the structured data of claim 1 is already present in the database and is independent of the unstructured data.

For example, Figure 4b of the specification illustrates structured data and unstructured data. In this example, the structured data 400b2 is an example of structured data that can be collected, for example, by an entity. The structured data can usually be captured in a highly structured form that is readily readable and interpretable by a computer. Figure 4b illustrates that the structured data identifies a customer number, a call date, a time of the call, a product identifier, and a problem number. This structured information is of use to the entity and has value on its own, independently of the unstructured data.

Figure 4b also illustrates unstructured data 400b1. In Figure 4b, the unstructured data includes notes (e.g., free text) from the customer call. The notes can be entered, for example, when fielding a call at a call center. However, the unstructured information is typically entered as text and is not readily understood by a computer – unlike the

structured data which can be readily understood by a computer. Further, Figure 4b illustrates that the structured data 400b2 is not from the structured data as taught by *Lemus*.

In Figure 4b, the unstructured data is associated with the same customer number as the structured data. However, the unstructured data is not yet integrated with the structured data. Claim 1 later integrates construed data (obtained from the free text of the unstructured data) with the structured data.

After accessing the structured data and the unstructured data, claim 1 extracts relational facts from the free text of the unstructured data and produces a set of construed data. The construed data is then integrated with the structured data. This process of integrating relational facts from the free text with the structured data is distinct from the process taught by *Lemus*, which analyzes text of an email to populate a record. See ¶¶[0078]-[0108].

Lemus therefore fails to teach or suggest many of the requirements of the claimed invention for several different reasons. As illustrated above, *Lemus* fails to disclose both the structured and unstructured data as required by claim 1. Rather, *Lemus* attempts to derive structured data from unstructured data. The structured data of *Lemus* does not exist independently of the unstructured data, in contrast to the structured data required by claim 1. Thus, there is no teaching or suggestion of corresponding structured data as required by claim 1.

With this difference, the remaining elements of claim 1 are likewise not taught or suggested by *Lemus* because *Lemus* does not disclose the original structured data to which the construed data relates. For instance, the populated record is not related to any structured data as required by claim 1.

Claim 1 has also been amended to clarify that the linguistic characteristics include at least syntactic roles. As noted in the specification, syntactic roles can include parts-of-speech, voice of the verb, some attributes of the subjects of the sentence and the role assignments of subject and direct object.

Lemus fails to disclose using linguistic characteristics as required by claim 1. In fact, the grammar recognition disclosed by *Lemus* includes classifying atoms using a

context specific dictionary by matching words. See ¶¶[0052]. The dictionary of *Lemus* represents a list of keys, together with a corresponding value. The system of *Lemus* loops through the list of atoms, and for each atom checks the dictionary to determine if the text of the atom exists among the keys. See *Id.*

The example set forth in *Lemus* (see ¶¶[0078]-[0108]) attempts to clarify the grammar stage by stating that the grammar stage actually operates on the categories and not directly on the atoms. See ¶[0099]. For example, *Lemus* suggests that the notation (ccy) is used to indicate an atom that belongs to the ccy (currency category). In this context, a (ccy) followed by a (nmbr) could mean the rental cost.

Checking atoms against a dictionary for a match or performing a grammar stage that operates on categories fails to teach or suggest using linguistic characteristics of the free text to extract relational facts from the free text, wherein the linguistic characteristics include at least syntactic roles, as recited in claim 1.

For example, *Lemus* teaches that the text is atomized, which inserts spaces before commas and full stops, dollar signs and so on. See ¶[0085]. *Lemus* also teaches that the resulting atoms can be categorized by looking up the atoms in a dictionary. Therefore, *Lemus* relies on the dictionary to provide categorizations to the atoms. However, there is no teaching of relating the atoms to any structured data because the structured data required by claim 1 and discussed above is not taught by *Lemus*. Further, there is no teaching of relating the atoms to structured data because the atomization taught by *Lemus* is part of *Lemus*' process of generating the structured data from the unstructured data.

The goal of *Lemus* is to extract information from the text, but there is no teaching of extracting information that can be related to the structured data as required by claim 1. As a result, the requirement of "integrating the construed data with the particular structured data", among others, cannot be taught or suggested by *Lemus*.

Thus, *Lemus* does not disclose both structured data and unstructured data as required by claim 1. *Lemus* further does not teach or suggest relating the construed data that is obtained from the unstructured data back to the structured data. Also, the grammar taught by *Lemus* fails to teach or suggest the requirement of using linguistic

characteristics where the linguistic characteristics include at least syntactic roles. As previously discussed, the grammar taught by *Lemus* appears to operate on the atoms of the text only indirectly. See ¶[0099].

In contrast to *Lemus*, claim 1 integrates mixed data by extracting relational facts from the free text and then relating the relational facts back to the original structured data.

For at least these reasons, Applicants respectfully submit that claim 1 is not anticipated by *Lemus*. For at least the same reasons, independent claims 17 and 33 are likewise not anticipated. The dependent claims are not anticipated for at least the same reasons.

Conclusion

In view of the foregoing, Applicants believe the claims as amended are in allowable form. In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, or which may be overcome by an Examiner's Amendment, the Examiner is requested to contact the undersigned attorney.

Dated this 4th day of September, 2007.

Respectfully submitted,

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